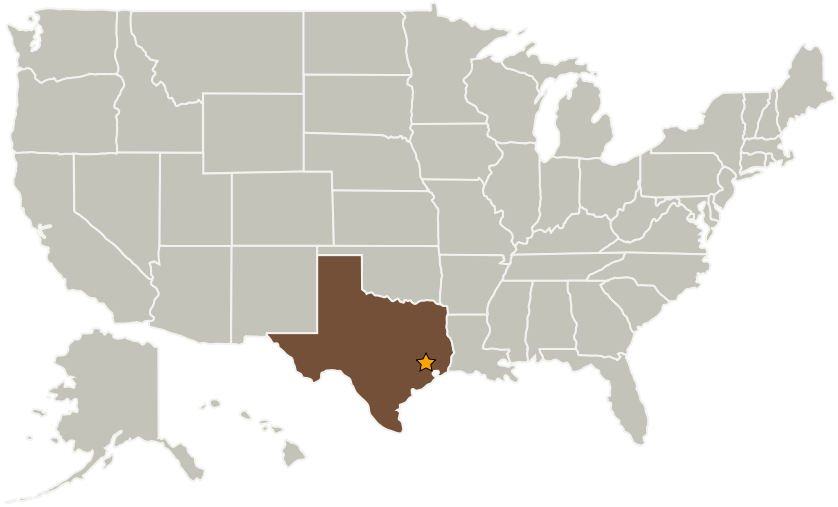
Sealed CylindrIcal Silver Metal Hydride Batteries, Phase I

Completed Technology Project (2004 - 2004)

Project Introduction

NASA Space Science missions require energy systems with high energy density with power levels up to several kW. Advances in mission electronics technology have resulted in smaller, lighter components yet power and energy requirements are increasing. RBC Technologies proposes to work with Moltech Power Systems to develop a novel electrochemical system, silver metal-hydride. This cathode/anode combination offers potential for very high energy with high specific power. Working prototype cells will be prepared in the Phase I effort. The ultimate program goal will be to demonstrate a sealed cylindrical cell that can achieve 140 Wh/kg and 1800 W/kg. Innovation will be required to develop separator materials that can simultaneously meet the electrochemical requirements of silver cathode and metal hydride anode. Full-scale battery development including shock and vibration hardening appropriate to the application would take place in Phase II, if awarded.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Rechargeable Battery Corporation	Supporting Organization	Industry	College Station, Texas

Sealed CylindrIcal Silver Metal Hydride Batteries, Phase I

Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Sealed CylindrIcal Silver Metal Hydride Batteries, Phase I

Completed Technology Project (2004 - 2004)

Primary U.S. Work Locations
Texas

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Brendan M Coffey

Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
  - TX12.1 Materials
    - TX12.1.6 Materials for Electrical Power Generation, Energy Storage, Power Distribution and Electrical Machines